



University of
Connecticut
College of Agriculture
and Natural Resources
Cooperative Extension System

CONNECTICUT
**Forest
& Park**
ASSOCIATION



**We hope you have enjoyed this self-guided tour of the
Goodwin Forest Conservation Center Forest.**

The Center is operated under a cooperative agreement
among:

The Connecticut Department of Environmental Protection

The UConn Cooperative Extension System

The Connecticut Forest & Park Association

The Connecticut Chapter, Society of American Foresters

To learn more feel free to contact the Center at
(860) 455-9534.

*Funding provided by the Federal Highways Administration Recreational
Trails Grants Program administered by the Connecticut Department of
Environmental Protection (DEP).*



**FOREST DISCOVERY
TRAIL GUIDE**

**This brochure is yours to use while enjoying the Goodwin Forest
Interpretive Trail. If you wish to keep it, a donation of \$3.00, left in the
gazebo cash box would be appreciated.**

**GOODWIN FOREST
CONSERVATION EDUCATION CENTER**



W E L C O M E !

You are on the grounds of the James L. Goodwin Forest Conservation Education Center. Lying at the southern end of the Goodwin State Forest, the Center includes an 80-acre Demonstration Forest where state-of-the-art, professional forest and wildlife stewardship practices are put in place and available for you to observe. We invite you to tour this forest on our self-guided interpretive trail with this brochure in hand.



This brochure is yours to use while enjoying the Goodwin Forest Interpretive Trail. If you wish to keep it, a donation of \$3.00, left in the gazebo cash box would be appreciated.

JAMES L. GOODWIN (1881-1967), one of the first professional foresters ever educated in America, owned over 1,700 acres here, which he called Pine Acres Farm. Goodwin and his staff practiced state-of-the-art forest management here for 50 years, and in 1964 he gifted the entire property to the state of Connecticut. The house and 80 surrounding acres were designated as a forest and wildlife conservation education center.

As a result of Mr. Goodwin's vision and generosity, this demonstration forest has been continuously managed by professional foresters for over 80 years.

The trail is marked in red and begins at the entrance to the youth camping area, at the northwest corner of the grounds. It is an easy 2/3rd mile walk. The numbers on the posts you encounter correspond to the numbers in this brochure.

FOREST DISCOVERY TRAIL MAP



LEGEND:

- Demonstration Forest Boundary
- Forest Stand Boundary
- - - Natchaug Trail
- - - Airline Trail
- - - Forest Discovery Trail

FOREST TYPES:

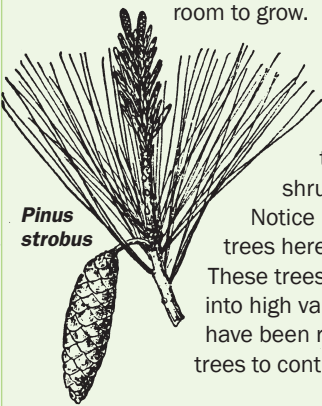
1. White Pine Sawtimber
2. Oak/Mixed Hardwood Sawtimber
3. Red Maple/Mixed Hardwood Wetland
4. Oak/Maple/White Pine Saplings
5. Open/Early Successional Habitat

GOODWIN FOREST CONSERVATION EDUCATION CENTER



Eastern white pine timber

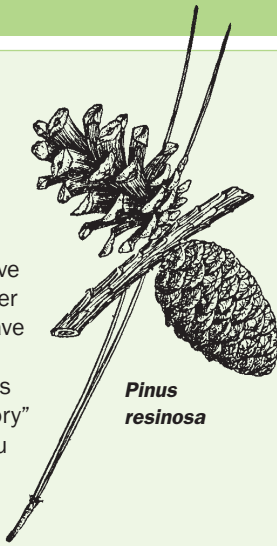
This forest, a mixture of eastern white pine (*Pinus strobus*) and red pine (*Pinus resinosa*) was planted by Pine Acres Farm crews between 1939 and 1943. A previous pine stand, planted in 1915, was destroyed by the 1938 hurricane. “Even-aged” timber management, designed to produce high quality pine “sawlogs”, has been practiced continuously since that time. Three separate “thinnings” have been conducted – partial harvests that remove smaller, lower quality trees so that the most promising trees have room to grow.



Pinus strobus

Foresters often refer to plants as occurring either in the “overstory” (the trees you would see if you flew over in an airplane) or in the “understory” (the trees and shrubs beneath the overstory).

Notice how almost all the overstory trees here are tall and straight with large healthy crowns. These trees are fast growing and have trunks that can be made into high value logs for the timber industry. Trees with less potential have been removed in the thinnings, leaving only the best timber trees to continue growing to maturity.



Pinus resinosa

Regeneration

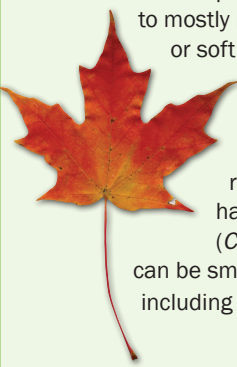
In the early 1990’s the red pine scale, an insect pest introduced from Asia, began killing red pines here. In 1993, a commercial timber harvest removed the remaining red pines before they died.

Here, an opening created by this salvage cutting has sparked the development of dense forest “regeneration”: young 8 to 20 foot tall pines, oaks and other trees that have grown up in the increased sunlight now reaching the ground. These dense areas of saplings make ideal habitat for ruffed grouse, cottontail rabbit and many other wildlife that nest on the ground and need to hide from predators.

As you walk, notice the regeneration around you, both in these openings and in the understory. They will become the next forest once the overstory trees mature and are harvested.

Changes in forest type

Over the next few hundred feet you will notice a change in the kinds of trees and shrubs you see. Because they were protected from winds here, the pines before you survived the 1938 hurricane and are approaching 100 years old. Beyond them to your left you will see that the pines give way to oaks, and as the soil gets wetter, to mostly red maple (*Acer rubrum*, also called swamp maple or soft maple). Red maple is easily recognized in spring by its red flowers and twigs, and in fall by its red foliage.



In the understory, the pines and oaks you saw behind you are replaced by spicebush (*Lindera benzoin*), which has tiny yellow flowers in spring, sweet pepperbush (*Clethra alnifolia*), whose fragrant white flowers can be smelled from a distance in summer, and ferns, including hayscented fern and cinnamon fern.



Witch hazel (*Hamamelis virginiana*)

Since before the Civil War, the wood of the witch hazel plant has been distilled into an astringent that is prized for a variety of medicinal and cosmetic uses. Nearly 100% of the world’s supply is manufactured in Connecticut.

Witch hazel is a large shrub which rarely exceeds 15 feet in height. Its flowers, with their long, narrow yellow petals, open in late October and November, long after most deciduous plants have gone dormant. Its seed pods, which produce two seeds apiece, burst open when mature and forcibly eject their seeds several feet from the parent plant.

As you walk, watch for more witch hazel plants mixed in with young birches, oaks and other young trees. In time as they grow, these trees will “overtop” the witch hazel shrub and relegate it to the understory.



Logging “skid” trail

Here the trail briefly follows a “skid trail”, where timber harvesting equipment has driven in the past with loads of harvested logs. Two types of machines have been used over the years: log “skidders”, which use winches or grapples to drag a load of logs behind them, and log “forwarders”, which use hydraulic grapple arms to pick logs up and carry them. Both machines bring tree-length logs to a “landing”, a place where they are “bucked” or cut into desirable lengths and then loaded onto trucks to be taken to a sawmill.



Log forwarder



Log skidder

Forest type boundary

After crossing Potter Road, our trail follows a woods road developed by Pine Acres Farm crews many years ago. The road forms a boundary between two different forest types, both of which have been managed to favor the overstory trees with the best timber potential:

- On your right (south) is another white pine timber stand planted after the 1938 hurricane.
- On your left (north) is a forest of oak, maple and other deciduous or “hardwood” trees. This forest was developed naturally from seed. The healthy, full crowned overstory oaks produce a tremendous acorn crop, an important winter food for many wildlife species.

A diverse mixture of white pine and hardwood trees is gradually developing in the understory of both forest types, helped by the increased sunlight reaching the forest floor as a result of past thinnings.

The Blue Blazed Trail System **Go right (South)**

Here our trail joins the Natchaug Trail, part of Connecticut’s 800-mile Blue Blazed Hiking Trail System. This statewide network is maintained by volunteers of the Connecticut Forest & Park Association. A comprehensive Trail Guide, called the Connecticut Walk Book, is available from CFPA (see www.ctwoodlands.org to learn more).

If you go straight (north) the trail continues for 19 miles until it joins the Nipmuck Trail in Eastford. **Please go right** (south) to continue on our self-guided hike. *From here on you will follow the blue trail markers back to the Goodwin Center.*

Pine Acres Pond

The pond before you is 90 acres in size and nearly 2 miles long. Once a white cedar forest, it was created in 1933 when James Goodwin had a dam built across Cedar Swamp Brook. Pine Acres Pond is shallow. “Emergent” vegetation such as lily pads and water shield grow throughout its surface in summer, providing excellent habitat for many species of frogs, turtles, birds such as great blue herons and kingfishers, and fish such as smallmouth bass.

Beavers also frequent the inlet and outflow streams, building dams and causing periodic variations in water levels.

Notice the large number of trees lying on the ground nearby. They were blown over by high winds, usually with their roots intact. Because the groundwater is close to the surface here, root systems are very shallow. This coupled with high winds coming off the water make trees very susceptible to “windthrow”.



Eventually these root systems will rot, leaving only an oblong-shaped pile of soil and stones next to the hole created where the roots uplifted. Several of these “pit and mound” sites in the same area can tell the story of a long ago hurricane or wind event, including which direction the winds were blowing.

Red pine mortality

The dead trees on the ground around you were red pines (*Pinus resinosa*), which were cut down as a safety measure. These trees are not native to eastern Connecticut but were planted here in the 1920’s, 30’s and 40’s for their timber value. Beginning in the 1980’s two non-native insects (red pine scale and red pine adelgid) infested the Goodwin Forest and began killing our red pines. Most were salvaged in timber harvesting operations.

The rotting logs provide cover for several species of salamanders, snakes, insects and other animals. Notice the sweet pepperbush, highbush blueberry and other shrubs that have grown up in the sunlight that reached the ground once the red pines died.

Species diversity

Moist, fertile soils such as those found can support a rich and diverse mixture of plant species. Very often, the diversity of species increases as the forest ages.

There are at least ten different species of trees and shrubs in the immediate area surrounding you. Some, such as tulip poplar, are very “intolerant” of shade and can only grow in direct sunlight. They will not be able to reproduce themselves successfully in the shady understory.

Others, such as sugar maple and hemlock, are very “tolerant” of shade. Because their seedlings can survive and grow in the understory, the forest will consist of more and more tolerant species as time goes on, unless a major disturbance removes the overstory.

Early succession & grassland habitats

Forests are Connecticut’s natural vegetative cover. If you stop mowing your lawn today, a forest will immediately begin to re-grow from seeds blown there by wind or carried by birds and other wildlife. In pre-colonial Connecticut, the only grassy areas here were the result of wildfires or those set by native Americans.

Many native wildlife species depend on “herbaceous” habitats, which increasingly rare today because we protect our lands from fire so well. The area before you is purposely maintained in grasses and forbs to provide such habitat.

Among the species that uses these habitats is the American woodcock. Woodcock perform a unique mating ritual in the field in early spring, build their nests in the forest nearby, and lead their newly hatched “poults” into dense young brush where they can find food while hiding from predators.

Each of these habitats is actively maintained here so that American woodcock can reproduce and thrive.

